

Quarter Three 2018 Report to the Oregon Public Utility Commission & Energy Trust Board of Directors



ENERGY TRUST OF OREGON
NOVEMBER 15, 2018

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A glossary of program descriptions and key terms is available online at www.energytrust.org/reports.

I Results at a glance^{1,2}

Savings

■ = Year-to-date goal ▨ = Annual goal

⚡ Total electric savings



⚡ PGE



⚡ Pacific Power



🔥 Total natural gas savings



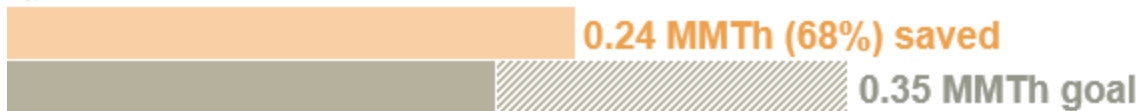
🔥 NW Natural



🔥 Cascade Natural Gas



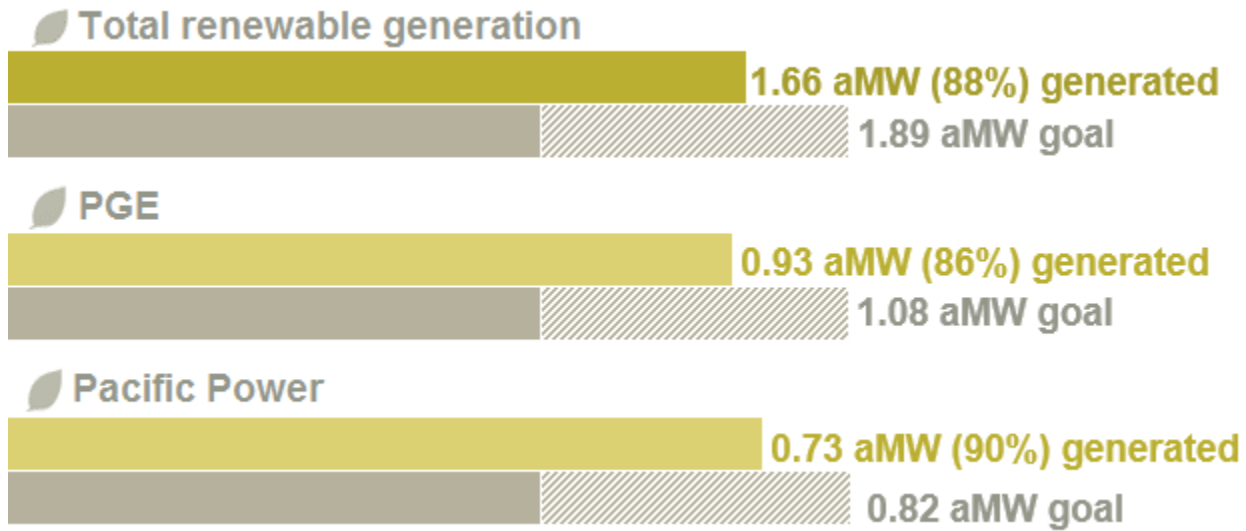
🔥 Avista



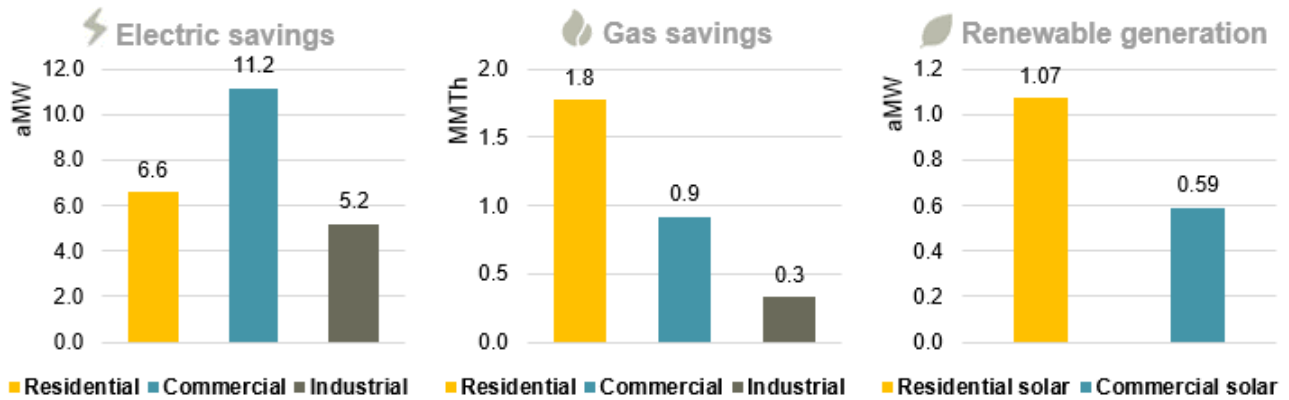
¹ This document reports net savings. Net savings are adjusted gross savings based on results of current and past evaluations.

² Note that aMW indicates average megawatts, MMTh indicates million annual therms and M is million.

Generation



Savings and generation by sector (year-to-date)



Customer satisfaction³



³ From June through September 2018, Energy Trust delivered a short telephone survey to 1,189 Oregon participants who completed projects between April and June 2018 and received an incentive or discount from Energy Trust. Results indicate satisfaction with overall program experience. New Buildings participants are surveyed annually, with the most recent survey in Q1 2018.

Expenditures

■ = Year-to-date budget ▨ = Annual budget

\$ Total



\$ Energy efficiency



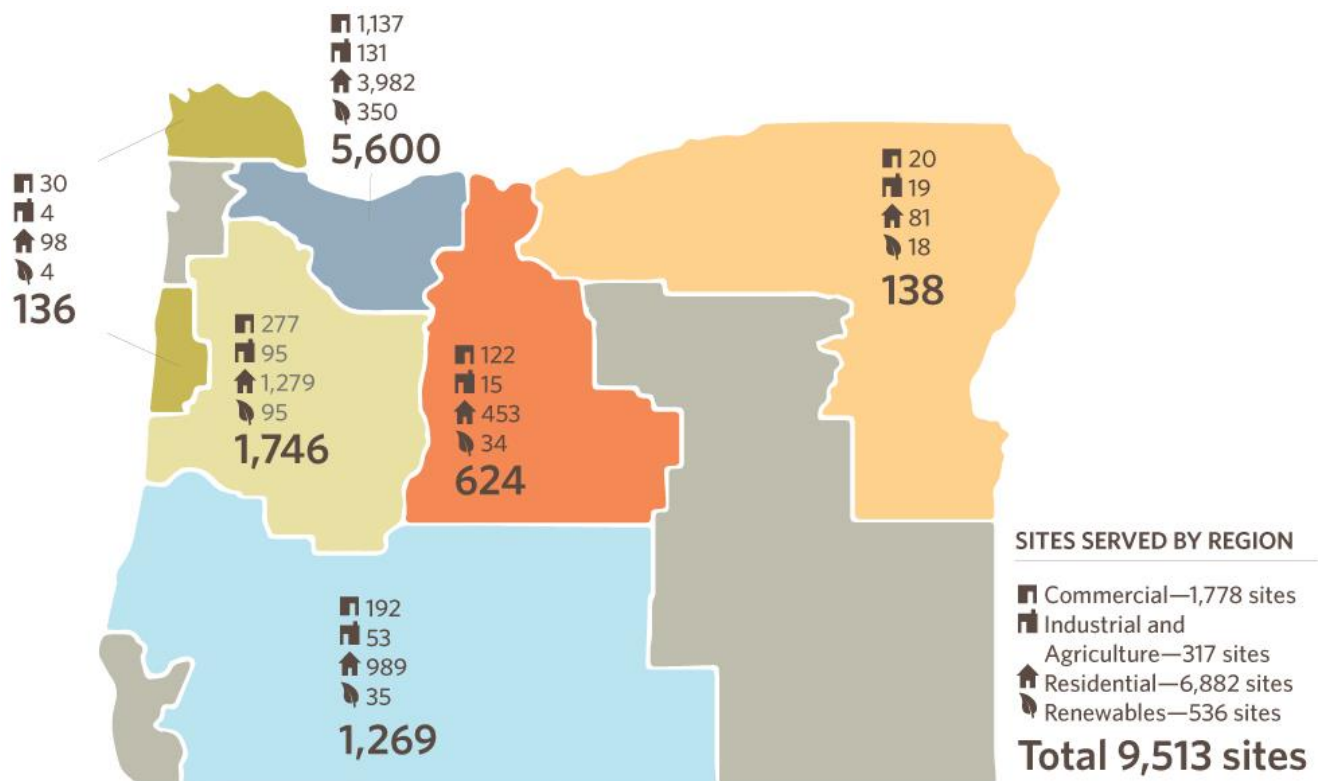
\$ Renewable energy



\$ Administrative



Sites served by region



This document reports on Energy Trust services to Oregon customers of Portland General Electric, Pacific Power, NW Natural, Cascade Natural Gas and Avista. Areas in gray are not served by these utilities.

II Executive summary

A. Progress to energy efficiency and renewable energy goals^{4,5}

- **At the close of quarter three, Energy Trust was on track to meet or exceed energy efficiency goals in Pacific Power, NW Natural and Avista territories**, largely due to continued strong residential and commercial new construction and demand for LEDs and showerheads.
- **The organization expects to fall short of energy efficiency goals in Portland General Electric and Cascade Natural Gas territories due to large industrial and commercial projects delayed to 2019.** In PGE territory, a megaproject is now expected to save only 38 percent of its originally forecasted savings in 2018, with the remainder delayed to 2019.
- **Electric efficiency improvements completed in Q3 saved 9.1 average megawatts** of electricity, about 16 percent of the 2018 goal of 56.6 aMW. Q3 2018 electric savings were approximately 13 percent less than savings in Q3 2017. Fewer savings in Q3 year-over-year were largely a result of increased lighting baselines that reduced the annual savings goal from 2017 to 2018 from residential lighting as this market transforms.
- **Gas efficiency improvements completed during Q3 saved approximately 900,000 annual therms** of natural gas⁶, about 14 percent of the 2018 goal of 6.6 million annual therms. Q3 2018 gas savings were approximately 11 percent greater than the savings in Q3 2017, as a result of the shift to a full set of programs and activities for the Avista territory.
- **Renewable generation is expected to exceed goals for PGE and Pacific Power due to a robust solar market during the first half of the year.**
- **Renewable energy systems installed during Q3 will generate 0.77 aMW of electricity**, 41 percent of the 2018 goal of 1.89 aMW.
- **Savings and generation achieved in Q3 represent about 52,000 tons of carbon dioxide** kept out of the atmosphere, the equivalent of removing 11,000 cars from Oregon roads.

9.1
AVERAGE MEGAWATTS
SAVED

900,000
ANNUAL THERMS
SAVED

0.77
AMW GENERATED

52,000
TONS OF CARBON
DIOXIDE AVOIDED

B. Notable activities and trends

- **Energy Trust completed Q3 with a strong foundation of completed and expected projects** to help meet annual energy-efficiency goals, as a result of continued high demand for LEDs across sectors and the ongoing benefits of a strong economy. Energy Trust programs drove electric savings in EPS™ new homes and commercial new construction markets; however, this

⁴ This document reports net savings, which are adjusted gross savings based on results of current and past evaluations.

⁵ This report includes the best available energy savings data as of the date of submission. Energy savings reported here for periods prior to January 1, 2017, may be different than previously reported as a result of applying updated evaluation factors to Energy Trust savings and generation in Oregon through the annual true up process. The full True Up 2017 Report is available online at www.energytrust.org/reports.

⁶ The gas savings do not include results for NW Natural in Washington. These results are available at www.energytrust.org/reports.

increase in projects coincided with limited contractor availability, and some projects delayed into Q4 and 2019.

- **LEDs account for the majority of electric savings** in the Existing Buildings, Existing Multifamily, Residential and Production Efficiency programs. **LEDs in cannabis facilities account for 27 percent of savings in the Production Efficiency program.** This year, Energy Trust expects to incent 23 percent fewer residential LED bulbs and claim 76 percent fewer savings than in 2017. The decline in residential savings and incentives for LEDs is due to increasing baselines, declining costs and successful market transformation.
- **In Q3, Energy Trust presented an in-depth review to the OPUC on the changes in the residential LED market** and Energy Trust's plan to begin exiting the market in 2019. Energy Trust will continue to monitor the market and government policies in early 2019 to develop lighting plans for 2020.
- **Nine Path to Net Zero new commercial construction projects are expected to complete by year-end**, with an additional 47 net-zero projects in progress. Path to Net Zero projects exceed energy code by 40 percent through a combination of energy-efficiency and renewable energy features. Energy Trust also selected two recipients for its 2018 Net Zero Fellowship grant opportunity, which will support emerging building industry professionals in addressing barriers to widespread adoption of net-zero design strategies.
- **Year-to-date solar generation was strong** due to many residential solar systems that applied for Oregon's Residential Energy Tax Credit before the December 2017 deadline and were installed in the first half of 2018. However, 45 percent fewer residential customers applied for solar incentives in Q3, an expected reduction in demand following completion of projects receiving a Residential Energy Tax Credit. Reduction in demand is expected to continue through year-end and into 2019.
- **Energy Trust provided solar development assistance incentives for 32 government and nonprofit solar projects** that are pursuing Pacific Power Blue SkySM grants or PGE's Renewable Development Fund grants. Starting in Q2, Energy Trust began offering solar development assistance incentives to provide early support for public, nonprofit and other organizations facing high project barriers.
- **Following a competitive solicitation for program delivery contractors, the board of directors approved three program delivery contracts for the Production Efficiency program's custom track.** The new contracts begin January 1, 2019, and for the first time include delivery of the custom track and Strategic Energy Management services. The consolidated contract structure is expected to streamline delivery, provide greater flexibility for evolving offerings and enhance the customer experience.
- **In Q3, Energy Trust held a board meeting at the Oregon Tech campus in Klamath Falls.** This was the first board meeting outside of the Portland Metro area, and provided an opportunity for board and staff to connect directly with and hear from community residents. Prior to the meeting, board



LEDs IN CANNABIS FACILITIES RESULT IN ELECTRIC SAVINGS FOR PRODUCTION EFFICIENCY PROGRAM

9

PATH TO NET ZERO PROJECTS EXPECTED TO CLOSE

32

PROJECTS PROVIDED SOLAR DEVELOPMENT ASSISTANCE INCENTIVES

members toured three customer sites where Energy Trust had provided incentives and technical resources: Klamath Works, Klamath Falls Gospel Mission and Sky Lakes Medical Center.

- **Energy Trust continued to focus on advancing its diversity, equity and inclusion initiative to position the organization to reach, serve and deliver benefits to more participants.** Activities included:
 - Continuing to develop a methodology and analysis of program participation data by race and ethnicity, income and geographic diversity. Staff reviewed the methodology with public, nonprofit and community-based organizations who serve minority populations, and previewed early results of the research with the Conservation Advisory Council.
 - Participating in the Fair Housing Council of Oregon bus tour to help staff improve their understanding of historic and systemic discriminatory policies and activities that have shaped Oregon, its neighborhoods and housing opportunities.
 - Participating in and sponsoring the Shades of Green Forum, to improve awareness about diversity within the energy industry and diversity best practices.
- **Energy Trust and Pacific Power completed a targeted load management pilot to deploy existing energy-efficiency offerings in North Santiam Canyon** to reduce local demand and help save energy when and where it is most valuable. Launched in 2016, this pilot promoted Energy Trust's energy efficiency services and incentives through targeted community events and marketing. The pilot informed Energy Trust and the utility on how to run future targeted efforts. Energy Trust is working with Pacific Power to design the next targeted load management pilot for 2019, which may include a full impact evaluation, billing analysis or customer interviews, bonus incentives for current energy efficiency measures, and promotion of rooftop solar. Energy Trust is also working with NW Natural on launching a targeted load management pilot in Silverton.
- **Energy Trust applied lean startup methodology to explore potential new offerings for small- and medium-sized commercial and industrial customers, as well as for low-income tenants of multifamily buildings.** Staff used customer interviews to gain insight into how to serve these customer segments and will integrate these findings into pilot efforts for 2019.
- **The organization began work with two consultants, 1961 Consulting and Slalom Consulting, to plan for future implementation of organizational and budget improvement recommendations** presented to the board, staff and stakeholders in Q2. Planning will occur through early 2019 with implementation in later 2019 and 2020. Energy Trust also executed some “quick win” recommendations in Q3, including a new business planning process to prioritize allocation of resources in the 2019 budget and a revised budget development and outreach schedule for the same budget.



III Program and operations activity

A. Commercial sector highlights

- **The commercial sector expects to exceed goals for PGE and Avista territories, and fall short of goals in Pacific Power, NW Natural and Cascade Natural Gas territories.**
- **These shortfalls are due in part to shifting construction timelines causing several projects to close ahead of schedule in 2017 or shift to 2019.** Another factor is limited contractor availability impacting the ability of customers to complete existing and new buildings projects. Energy Trust faces a challenge in serving commercial customers in Cascade Natural Gas territory. There are relatively few eligible customers and many of them have already completed energy projects, reducing the potential to acquire additional savings at these sites.
- **To help reach goals in Pacific Power and Cascade Natural Gas territories,** the sector will target Existing Buildings outreach efforts to Central Oregon and deepen commercial Strategic Energy Management engagement with participating customers.
- **Savings from NEEA activities comprised approximately 9 percent and 12 percent of the sector's results** in PGE and Pacific Power territories, respectively. Savings in 2018 are from building code and equipment standards improvements, working with distributors and manufacturers to encourage stocking of efficient commercial lighting, and efforts to promote and support commissioning of new and existing commercial buildings.

9%

OF COMMERCIAL
SECTOR SAVINGS IN
PGE TERRITORY FROM
NEEA ACTIVITIES

12%

OF COMMERCIAL
SECTOR SAVINGS IN
PACIFIC POWER
TERRITORY FROM
NEEA ACTIVITIES

Existing Buildings

The Existing Buildings program offers energy-efficient improvements for existing commercial buildings of all sizes. Incentives are available for custom projects, including capital upgrades and operations and maintenance improvements; standard upgrades; lighting upgrades; and energy management offerings such as commercial Strategic Energy Management, with incentives, tools, training and technical assistance to help customers reduce energy use through behavioral and operations improvements.

- **Electric savings were driven by lighting upgrades,** which represented 50 percent of savings, plus standard upgrades in grocery stores.
- **Gas savings were driven by foodservice equipment upgrades,** primarily gas fryers, as well as HVAC controls and boilers.
- **During Q3, the program planned customer outreach in Central Oregon** through local Energy Trust representatives and trade ally contractors to increase electric and gas savings from standard upgrades, such as foodservice equipment.
- **The program enrolled six new minority- and women-owned emerging and small business contractors** as a result of outreach and contractor



LARGE LIGHTING
PROJECTS DROVE
ELECTRIC SAVINGS

6

NEW MINORITY- AND
WOMEN-OWNED
EMERGING AND SMALL
BUSINESS
CONTRACTORS
ENROLLED

recruitment. In Q3, Energy Trust worked with Women in Commercial Real Estate, Asian American Hotel Owners Association, Oregon Building Diversity and Minority Enterprise Development.

- **Energy Trust worked with trade allies, the Building Owners and Managers Association, Prosper Portland, and local architecture firms and developers to help customers leverage Energy Trust program resources for Multnomah County's PropertyFit Commercial Property Assessed Clean Energy program's technical requirements.** CPACE removes financial roadblocks to energy-efficient and clean energy investments for 10 commercial building owners by providing 100 percent of a project's costs, which are repaid for up to 20 years through an assessment added to the property's tax bill. With assessment payments offset by lower energy bills, building owners can reap the benefits of upgrades without accruing long-term costs.
- **Several Existing Buildings projects have been delayed as a result of the strong construction market limiting contractor availability,** particularly in rural areas where labor is more constrained. Energy Trust anticipates this could result in savings shifting from 2018 to 2019.
- **To make it easier for smaller customers to invest in energy efficiency upgrades,** the **Existing Buildings program created a new outreach team dedicated to helping small businesses** install energy-efficient lighting and other standard upgrades.
- **Energy Trust streamlined data management to enable Strategic Energy Engagement coaches to spend more time on direct customer support** to drive engagement and savings.



**NEW OUTREACH TEAM
FOR SMALL
BUSINESSES**

Existing Multifamily

The Existing Multifamily program serves existing multifamily structures with two or more dwelling units, including market-rate housing, affordable housing, assisted living facilities, campus housing facilities, homeowners associations and individual unit owners. Offerings include free in-unit installation of LEDs, showerheads and faucet aerators and distribution of energy-saving advanced power strips; incentives for common-area lighting upgrades; incentives for standard measures including HVAC equipment, water heaters, weatherization, appliances and foodservice equipment; midstream incentives provided to distributors for qualifying equipment and lighting measures; incentives for custom projects; and technical services including technical analysis studies and free walkthrough surveys.

- **Free installation of LEDs, showerheads and faucet aerators in tenant units, plus common-area lighting upgrades, continued to drive electric savings** in Q3.
- **Gas savings were driven by installation of water-saving devices in tenant units,** plus standard water heating upgrades.
- **Targeted marketing and outreach tactics launched in Q1 resulted in 800 first-time participants,** with a notable increase from small multifamily

800

**FIRST-TIME
PARTICIPANTS FROM
OUTREACH EFFORTS**

property owners. More than one-half of these new participants are condominium and townhome owners.

- **Compared to Q1 through Q3 2017, more affordable housing properties completed projects through Q3 2018** following continued energy advisor engagement and outreach to affordable housing organizations and property managers.
- **In Q3, more customers in Southern Oregon, Central Oregon and the North Coast benefited from free installation of energy-efficient products** due to new outreach strategies, including more onsite visits.
- **The program analyzed data to identify and target high-gas customers**, including determining high-usage customers and reviewing boiler permits to identify aging equipment that needs replacement.
- **Participation in trade shows resulted in new project leads in the Portland Metro area, and Southern and Central Oregon.** Existing Multifamily energy advisors established new relationships and re-engaged with past participants interested in new projects.
- **The program increased the number of multifamily trade allies by 10 percent**, enrolling **15 new allies** year to date.



**MORE AFFORDABLE
HOUSING PROJECTS
CLOSE**



**15 NEW TRADE ALLIES
ENROLL**

New Buildings

The New Buildings program supports design and construction of high-performance commercial buildings and major renovations of all sizes and building types. Staff engage with building owners, developers and design professionals to provide standard prescriptive incentives, market solutions incentive packages and custom incentives. Tailored market solutions incentive packages help businesses make quick decisions and achieve deeper energy savings when constructing small restaurant, grocery, multifamily, office, school or retail buildings less than 70,000 square feet.

- **Warehouse projects comprised about 40 percent of electric savings in Q3, followed by multifamily at 20 percent**, with grocery and office both contributing 8 percent.
- **Multifamily projects** provided 40 percent of gas savings, with restaurants and lodging each contributing approximately 10 percent.
- **New Buildings increased participation from schools and warehouses** compared to last year. In 2018, 110 schools and 52 warehouses enrolled through Q3, compared to 75 and 26 respectively in 2017. Enrollment is driven by local bonds and grants for capital upgrades at schools and spurred by industrial growth that requires new large-scale warehouse facilities.
- **Nine Path to Net Zero projects are expected to complete by year-end.** Of the 56 Path to Net Zero projects in progress, 24 projects received early design assistance payments and nine projects are expected to receive installation payments by year-end. Since starting the Path to Net Zero pilot in 2009, annual enrollment has continued to increase and has helped steadily transform the market. Path to Net Zero projects exceed energy code by 40



**MORE SCHOOL AND
WAREHOUSE
PROJECTS ENROLL**



**9 PATH TO NET ZERO
PROJECTS EXPECTED
TO CLOSE**

percent through a combination of energy-efficiency and renewable energy features.

- **The program enrolled a veterans affordable housing project in Path to Net Zero**, located in Multnomah County. Announced in September 2018, Multnomah, Washington, Clackamas and Marion counties will receive more than \$2 million in Veterans Affairs Supportive Housing vouchers from the U.S. Department of Housing to assist veterans with securing affordable housing.
- **New Buildings continued outreach to remote and smaller communities** throughout Q3. Staff expanded awareness about Energy Trust services through presentations and events at Redmond Chamber networking event; Green and Solar Tour in Central Oregon; Snake River Economic Development Alliance; and hospitality groups in Lane, Douglas and Coos counties.
- **Energy Trust selected two recipients for its 2018 Net Zero Fellowship** grant opportunity, which supports emerging building industry professionals in applying net-zero design strategies. The fellowships will address barriers to widespread adoption of net-zero design strategies.



SELECTED TWO
RECIPIENTS OF NET
ZERO FELLOWSHIP

B. Industry and agriculture sector highlights

- **The industry and agriculture sector expects to meet or exceed goals for Pacific Power and NW Natural, and fall short of goals in PGE, Cascade Natural Gas and Avista territories.** Energy Trust will greatly exceed goal in NW Natural territory due to one large regenerative thermal oxidizer project, enabling the customer to integrate energy efficiency into their environmental remediation efforts.
- **In PGE territory, the significant shortfall is due in part to custom projects that were delayed to 2019**, including a megaproject now expected to save only 38 percent of its originally forecasted savings in 2018, with the remainder delayed into the new year. Megaprojects are large commercial and industrial projects receiving more than \$500,000 in Energy Trust incentives for energy-efficiency upgrades. These projects are reviewed and approved by the board of directors and provide savings at very low cost.
- **In Cascade Natural Gas and Avista territories, there are few eligible industrial customers.** Robust outreach will continue through Q4, and there is potential to meet the goal in Cascade Natural Gas territory if greenhouse and steam trap projects from this outreach close by year-end.
- **Savings from NEEA activities comprised less than 1 percent of the sector's results** in both PGE and Pacific Power territories. Savings in 2018 are from NEEA's reduced wattage lamp replacement initiative, certification of refrigeration operators in the industrial refrigeration market, as well as from a previously funded initiative to improve awareness of and establish standards for efficient motors.

1%

OF INDUSTRY AND
AGRICULTURE
SECTOR SAVINGS IN
PGE AND PACIFIC
POWER TERRITORIES
FROM NEEA
ACTIVITIES

Production Efficiency

Production Efficiency provides energy-efficiency solutions for all sizes and types of eligible industrial, agricultural, municipal water and wastewater customers. The program provides services and incentives through three primary delivery tracks: standard, custom and energy performance management. Production Efficiency is designed and managed in-house by Energy Trust staff and is delivered to market through the support of program delivery contractors and other market actors.

- **Lighting projects drove 41 percent of savings in Q3**, especially LEDs, LED high bays and custom LED indoor agriculture projects. An additional 28 percent of savings came from standard upgrades, including irrigation upgrades, compressed air leak reduction upgrades and fast acting doors, 16 percent from custom projects and 15 percent from industrial Strategic Energy Management participants.
- **Custom projects were the primary driver of gas savings in Q3**, including HVAC and process oven heat recovery upgrades.
- **Production Efficiency expects 48 projects at cannabis facilities to close in 2018**, accounting for approximately 27 percent of the total lighting savings, slightly more than the previous year.
- **In Q3, the program launched faster and lower-cost technical analysis studies for small custom projects**, and studies were completed in Q3 at one-half the expected cost of typical studies.
- **Concluded in Q3, recruitment for industrial SEM resulted in 45 participants**, up 30 percent compared to last year. Fifteen of these participants are enrolled in first-year SEM, and the remaining 30 are enrolled in continuous SEM.
- **In Q3, Energy Trust recruited, trained and supported influential vendors to sell efficient products, equipment and systems.** Vendors included Papé (battery chargers), Johnson Controls (refrigeration), Thermal Supply (refrigeration), Airgas Bend (welder) and Compression Engineering (compressed air).
- **Energy Trust engaged farmers, irrigators and their vendors from all regions at the Farwest Trade Show**, the largest agricultural show in the West featuring 400 exhibitors and more than 5,000 attendees. Energy Trust also showcased customers at the first-ever Farwest Bus Tour of energy-efficient nurseries, visiting Woodburn, Canby, Portland and Aurora.



**LIGHTING DROVE
PRODUCTION
EFFICIENCY ELECTRIC
SAVINGS**

45

**PARTICIPANTS
RECRUITED FOR
INDUSTRIAL SEM**



**ENGAGED FARMERS,
IRRIGATORS AND
VENDORS AT
FARWEST TRADE
SHOW**

C. Residential sector highlights

- **The residential sector is on track to meet annual goals in all utility territories**, driven by construction of new EPS™ homes and purchases of LEDs and energy-efficient showerheads.
- **Savings from NEEA activities comprised approximately 40 percent of the sector's results** in both PGE and Pacific Power territories, respectively. Savings in 2018 are primarily from previously funded efforts to improve battery charger standards, as well as from residential building code

40%

**RESIDENTIAL SECTOR
SAVINGS IN PGE AND
PACIFIC POWER
TERRITORIES FROM
NEEA ACTIVITIES**

improvements. Ductless heat pump, heat pump water heater and super-efficient dryer initiatives also deliver savings.

Residential

Energy Trust's residential program provides energy-efficiency solutions for residential customers of single-family homes, manufactured homes and newly constructed homes. Cash-back incentives are available for energy-efficient HVAC systems, appliances and weatherization upgrades. Instant discounts are provided for water heating equipment, lighting and showerheads. The program delivers services through four program tracks: home retrofit, manufactured homes, retail promotions and new construction.

- **Energy Trust's marketing and incentives for LEDs and showerheads purchased in stores, ductless and ducted heat pump upgrades, and energy-efficient EPS new homes** continued to drive electric savings in Q3.
- **The majority of gas savings were from showerheads purchased in stores, market transformation and construction of new EPS homes**, with additional savings from upgrades to energy-efficient windows, furnaces and gas fireplaces. Energy Trust claims market transformation savings for influence on 2011 and 2008 updates to energy code that increased the adoption of energy-efficient technologies and practices.
- **Strong heat pump replacements continued**, largely driven by revised requirements for Energy Trust incentives and a complementary incentive from Energy Trust for also installing heat pump controls.
- **Energy Trust increased incentives to boost retail and distributor sales of heat pump water heaters** in Q4 and 2019. In Q2, heat pump water heater sales lagged across both retail and distributor channels, attributed to the sunset of NEEA's upstream incentives to manufacturers, the sunset of Oregon's Residential Energy Tax Credit in 2017 with no grace period in 2018, sunset of federal tax credits, and higher costs from recent trade tariffs reducing production volumes.
- **As part of a two-year manufactured home replacement pilot to retire old, inefficient manufactured homes and replace them with energy-efficient new models**, the board of directors approved the use of up to \$1,000,000 to establish a manufactured homes replacement loan fund with Craft3. This gives customers access to lower-cost loans to replace older, inefficient manufactured homes with efficient versions and benefit from reduced energy use, lower costs and better comfort.
- **The program conducted outreach and collaborated with community-based organizations in rural areas** to promote enhanced Savings Within Reach incentives for heating systems for moderate-income customers.
- **In Q3, the program contracted with Portland nonprofit Community Energy Project to reach underserved customers through installation of 15 heat pump water heaters in low-income homes at no cost to the participants** and delivered a do-it-yourself weatherization workshop. This effort tests a new program design model that builds partnerships with



**INCREASED
INCENTIVES TO BOOST
RETAIL AND
DISTRIBUTOR SALES
OF HEAT PUMP WATER
HEATERS**



**INSTALLED 15 HEAT
PUMP WATER
HEATERS IN LOW-
INCOME HOMES**

community-based organizations to help customers they work with benefit from energy-efficiency services.

- **The program coordinated with community action agencies to support referrals to moderate-income customers in rural areas** including the North Coast and Eastern, Southern and Central Oregon. For example, Energy Trust met with both the Community Connections of Northeastern Oregon and Neighbor Works in Bend to identify counties in these regions that could benefit from the Savings Within Reach offering.
- **In Q3, the program conducted two of four 2018 Green Construction and Energy Efficiency trainings with Oregon Tradeswomen Inc. and Constructing Hope.** Delivered by Energy Trust and Earth Advantage, these trainings support and build a pipeline of more diverse trade ally contractors.

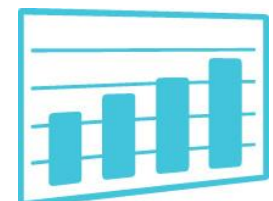
D. Renewable energy sector highlights

- **The renewable energy sector is on track to exceed its annual goal,** largely due to a high volume of solar projects that applied for the Residential Energy Tax Credit before the end of 2017 deadline and were then built and received an Energy Trust incentive in the first half of 2018.
- **The renewable energy sector anticipates a reduction in solar projects in 2019** as the remaining roll-over projects with Residential Energy Tax Credits close at the end of 2018 and demand will decrease due to the expiration of the tax credit.

Solar

The Solar program aims to create a vigorous and sustainable market for solar in Oregon that will ultimately thrive without incentives. The program offers incentives and support to increase consumer awareness through education and marketing; protect consumers by enforcing business and quality standards; aid the industry to drive down non-hardware soft costs; and ensure a robust, qualified trade ally network. The program offers standard incentives for smaller-scale distributed systems for residential, business, public sector and nonprofit customers. In 2018, the program is focusing on improving equitable access to solar for lower-income customers and supporting innovative applications of solar that provide greater value to communities or the grid.

- **In Q3 the program completed 45 commercial solar projects,** the most in any quarter since 2015, as a result of high consumer demand for project reservations in 2017.
- **Fewer residential customers applied for incentives in Q3, representing a 45 percent reduction in demand compared to Q3 2017.** The reduction was expected following the expiration of the Residential Energy Tax Credit at the end of 2017. In Q1, the program moderately increased residential incentives to help provide stability and continuity for customers and trade allies during this major market change.



**INCREASE IN
COMMERCIAL SOLAR
PROJECT
COMPLETIONS**

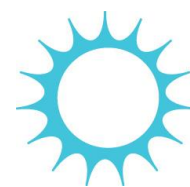
- **Energy Trust provided solar development assistance incentives for 32 government and nonprofit solar projects** that are pursuing Pacific Power Blue SkySM grants or PGE's Renewable Development Fund grants. Starting in Q2, Energy Trust began offering solar development assistance incentives to coordinate project funding between Energy Trust and utility grant programs, and to provide early support for public, nonprofit and other organizations facing high project barriers. These projects are also eligible to receive a reduced-rate standard incentive offering with a longer reservation period.
- **For the second year, Energy Trust convened the low- and moderate-income solar work group, with more than a dozen new community-based organizations from around Oregon.** Through this work group, Energy Trust engages with community-based organizations and helps build their capacity for developing solar projects in communities. This work is supported by a U.S. Department of Energy grant and is in coordination with the Oregon Department of Energy and Clean Energy States Alliance.
 - **As part of this work, the program developed a solar innovation grant offering to help community-based organizations and affordable housing developers** design innovative program models for deploying solar to benefit low- or moderate-income customers. In Q4, Energy Trust will issue a solicitation for eight to 12 grants of up to \$10,000.
- **In Q3, the program launched an online solar calculator to provide estimates of solar generation, incentives and financial payback.** The tool, WattPlan, helps customers understand potential generation and costs based on their actual utility rate and rooftop configuration. Energy Trust will compare results from the tool against its lead generation web tool to inform future marketing and customer engagement strategies.
- **Energy Trust collaborated with the Solar Foundation and Northwest Energy Coalition to launch a trade ally diversity study** for Northwest solar contractors and their employees. Expected in early 2019, the study will provide information about the current state of the solar workforce and identify opportunities for supporting a more equitable and inclusive industry.
- **Energy Trust continued collaboration with PGE and the City of Portland to develop the city's Fire Station 1 solar and storage system,** which will improve the resilience of this critical emergency facility by storing excess energy generated onsite. Now in permitting, the project is scheduled to begin construction in Q4 or early 2019.

32

PROJECTS RECEIVED
SOLAR DEVELOPMENT
ASSISTANCE
INCENTIVES



LAUNCHED SOLAR
CALCULATOR TOOL



DEVELOPING SOLAR
AND STORAGE
SYSTEM FOR
PORTLAND'S FIRE
STATION 1

Other Renewables

The Other Renewables program supports renewable energy projects up to 20 megawatts in nameplate capacity that generate electricity using biopower, geothermal, hydropower and municipal-scale, community-owned wind technologies. Most projects are less than 2 megawatts in size. The goal of the program is to expand Energy Trust's renewable energy portfolio across a range

of technologies and improve market conditions for renewable energy projects. The program provides project development assistance incentives and installation incentives. Project development assistance incentives can pay for a portion of the costs of feasibility studies, technical assistance or other non-capital cost assessments to help projects move from concept to construction. Qualified projects may access project development assistance incentives multiple times, up to the limits of funding caps, enabling applicants to move through consecutive development activities. The program also provides installation incentives calculated on a custom basis after a detailed technical and financial review of a project's application. All incentives are paid following successful project installation or activity completion.

- **The program expects to complete the 0.09-aMW Three Sisters Irrigation District hydro project ahead of schedule** in Q4, although no projects were budgeted to reach commercial operation in 2018.
- **Three new districts signed up to participate in the irrigation modernization initiative**, a collaborative effort by Energy Trust and Farmers Conservation Alliance to help irrigation districts and farmers invest in modern irrigation infrastructure. Upgrading open irrigation ditches to closed pipes saves energy, conserves water, improves habitat for fish and can generate clean energy through small hydropower systems.
- **As of Q3, 20 of Oregon's irrigation districts, making up one-quarter of the state's agricultural water use, are assessing upgrades through the irrigation modernization initiative.** To date, nine of these districts have completed irrigation modernization assessments, which identified the potential to generate approximately 40 MW of in-pipe hydropower, 60,000 MWh of energy savings through pump removal, and water savings of more than 500 cubic feet per second.
- **Staff helped Farmers Conservation Alliance apply for and receive approximately \$150,000 in grant funds** from the Idaho National Lab and the U.S. Department of Energy **to create educational materials for irrigation districts**, including case studies of irrigation modernization business models and barriers to implementation.
- **Deschutes River Basin irrigation districts leveraged their work with Energy Trust and Farmers Conservation Alliance to secure federal grants totaling \$50 million to begin piping open irrigation canals this fall.** Initial funding was awarded to Tumalo Irrigation District near Bend to construct a new pipeline that will enable hydropower and energy savings in future phases of modernization work. Construction will begin in Q4 2018.
- **Energy Trust staff planned and participated in two irrigation modernization tours** for representatives of Energy Trust's Renewable Energy Advisory Council, OPUC, the Idaho and Pacific Northwest National Labs and the U.S. Department of Energy. The tours showcased completed modernization projects and irrigation modernization opportunities at Farmers Irrigation District (an Energy Trust participant) and East Fork Irrigation District, both in Hood River.



THREE NEW DISTRICTS SIGNED UP TO PARTICIPATE IN THE IRRIGATION MODERNIZATION INITIATIVE



WORKED WITH FARMERS CONSERVATION ALLIANCE TO CREATE EDUCATIONAL MATERIALS FOR IRRIGATION MODERNIZATION

- **Staff presented about hydropower and biogas potential at an Oregon Association of Clean Water Agencies conference in Bend** and represented Energy Trust's renewable energy offerings at the Pacific Ocean Energy Trust annual conference in Portland. Staff traveled to Wallowa County to discuss project opportunities with irrigators and other landowners interested in hydropower.

E. Internal operations highlights

Communications

- **Energy Trust ran a new advertising campaign**, driving customers to educational content on the website including existing low-cost, no-cost tips and information on incentive programs. Campaign results will be analyzed in Q1 2019 to inform future campaigns.
- **Energy Trust received 95,000 website visits in Q3**, generating 278,000 page views.
- **More than 80 percent of all visitors to the website in Q3 were new visitors**, most of whom found the website through a search engine or paid online advertising. In addition to the home page, most new visitors viewed the residential incentives page, the residential heating solutions page and the smart thermostat incentive page.
- **In Q3, visitors who found the website through a search engine viewed 2.9 pages per visit and spent just over three minutes on the website.** This is higher than Energy Trust's 2017 average of 2.6 pages per visit and 2.3 minutes on the website, a good indicator of engagement.
- **The majority of web visitors were located in the Portland Metro area (77 percent)**, followed by Willamette Valley (9 percent), Southern Oregon (8 percent) and Central Oregon (4 percent). The remaining 2 percent of visits originated from Eastern Oregon, the North Coast and outside of Oregon.
- **Energy Trust distributed one press release in Q3**, featuring warm weather energy-saving tips.
- **Energy Trust garnered 76 news stories** about its programs, services and customer benefits in print and broadcast with a media value of \$108,000—what it would have cost to purchase the equivalent advertising space or air time—as a result of media outreach and responses to reporter inquiries.

Customer service

- **Energy Trust received 3,700 calls in Q3 2018, a 13 percent decrease** from 4,200 calls in Q3 2017. This reflects a trend of declining call volumes as more customers access online self-service content and tools.
- **Staff responded to 332 email inquiries in Q3 2018**, a 12 percent decrease from 376 emails received in Q3 2017.

95,000
WEBSITE VISITS

76
NEWS STORIES ABOUT
ENERGY TRUST

3,700
CUSTOMER CALLS
RECEIVED

- **Energy Trust received two complaints in Q3 2018** that could not be easily resolved by a call center representative. Complaints were regarding missing information on an incentive application and the use of an outdated incentive application.

Trade and program allies

- **Energy Trust surveyed 1,000 trade allies to learn** how they interact with and view Energy Trust's processes. The organization received a strong response rate of around 20 percent, and their input will influence trade ally engagement strategies in 2019.
- **Staff planned education and networking opportunities at the trade ally forums in Bend, Grants Pass, Klamath Falls, Pendleton and Portland.** Going forward, Energy Trust will offer trade ally forums annually instead of twice a year, with additional outreach events occurring throughout the year.



1,000 TRADE ALLIES
SURVEYED

General outreach

- **Outreach staff expanded awareness about Energy Trust services through presentations and events**, including Salem Capitol Multicultural Day, Umpqua Valley Home Builders Association Home Tour in Douglas County, Latinx Health Fair in Medford, Resource Senior Fair in Josephine County, League of Oregon Cities conference and a Eugene Climate Action Plan meeting.
- **Staff participated in a strategic planning process for Douglas County Smart Energy**, a community group that supports the expansion of local energy efficiency initiatives and solar projects.
- **Staff interviewed candidates for a new AmeriCorps Resource Assistance for Rural Environments intern for the City of Pendleton.** Energy Trust sponsors AmeriCorps RARE interns to build capacity in rural communities and connect those communities to programs and services.
- **Outreach staff coordinated and participated in the grand opening celebration and ribbon-cutting of the Yellowhawk Tribal Health Center**, a primary healthcare center for the **Confederated Tribes of the Umatilla Indian Reservation enrolled in Energy Trust's Path to Net Zero offering.** The event was attended by tribal board of trustees, representatives from tribal offices, local and state elected officials, residents and members of the business community.
- **Outreach staff participated in planning for the annual Making Energy Work for Rural Oregon event**, including coordinating with subject matter experts from the community to serve on panels and present on various projects.



CONFEDERATED
TRIBES OF THE
UMATILLA INDIAN
RESERVATION
COMPLETED PATH TO
NET ZERO PROJECT

IT and business systems

- **Energy Trust processed 13,000 customer projects in Energy Trust systems**, including 10,000 submitted through web applications.

13,000

CUSTOMER PROJECTS
PROCESSED

- **Staff improved Power BI, a new dynamic reporting tool** that enables deeper and real-time analysis of program performance.
- **Energy Trust upgraded to Microsoft Office 365, adding functionality for staff**, including better capabilities for simultaneous editing of documents.
- **Staff continued to transition to a new online version of Microsoft SharePoint**, improving usability of this intranet platform used by staff, program management contractors and program delivery contractors.
- **Improved the Trade Ally Portal application** to provide additional functionality for trade allies.
- **Integrated the newest version of the Solar program's PowerClerk application** into Energy Trust systems.

Planning and evaluation

- **Staff designed 61 new energy-efficiency measures** and revised six measures.
- **Staff completed and posted seven evaluations and market studies** on the Energy Trust website: Impact Evaluation of the 2015-2016 Existing Buildings Program, Solar Verification Process Evaluation, Energy Trust Lighting Tool Market Research, Persistence of O&M Energy-Efficiency Measures, Comparison Analysis of Energy Trust of Oregon's Energy Performance Score and U.S. Department of Energy's Home Energy Score, Options for Educating Oregon on Energy Efficiency, and Utility Billing Analysis of 2013-2014 Multifamily Ductless Heat Pump Retrofits.
- **Staff supported Pacific Power integrated resource planning**, including providing technical resource potential and presenting at several working group sessions.
- **Energy Trust completed a project to determine the timing of energy savings from specific efficiency measures.** This project contributed to a larger effort to refine load profiles so that Energy Trust can more accurately report peak reduction benefits. The value of Energy Trust's savings are driven, in part, by how measures can reduce peak demand for the utility.
- **Staff provided support for Oregon's Low-Income Utility Programs working group**, including coordinating development of a resource assessment modeling process to quantify energy savings potential for low-income customers in Oregon. Modeling and the results are expected to be complete in Q4. The working group is led by the Oregon Housing and Community Services and the Oregon Public Utility Commission, and identifies needs and opportunities for new or improved programs as a result of carbon regulation and changing federal support for low-income programs.

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NEW ENERGY-
EFFICIENCY
MEASURES DESIGNED

IV Revenues and expenditures tables^{7,8,9,10}

A. Revenues and expenditures summary

- Overall revenues totaled \$42.8 million for Q3 2018, 4 percent over what was budgeted.
- Q3 expenditures totaled \$39 million, of which \$19.6 million or 50 percent was for incentives.
- Q3 electric efficiency expenditures were 8 percent below budget.
- Q3 gas efficiency expenditures were 8 percent below budget.
- Q3 renewable energy expenditures were 22 percent over budget. Sunset of the Residential Energy Tax Credit at the end of 2017 resulted in a high-volume of solar projects installed in early 2018. Long verification timelines then delayed payments into Q3.

B. Revenues

Revenues include public purpose revenue plus incremental electric revenue from SB 838 and a small grant. Incremental revenues are those authorized under SB 838 to support capturing additional cost-effective electric efficiency savings above the amount supported by funding through SB 1149.

Source		Q3 actual revenues		Q3 budgeted revenues
Portland General Electric	\$	9,463,874	\$	8,894,901
PGE Incremental	\$	16,369,459	\$	15,562,991
Pacific Power	\$	6,893,436	\$	6,918,152
Pacific Power Incremental	\$	7,800,092	\$	7,562,984
NW Natural	\$	1,711,501	\$	1,635,868
NW Natural Industrial DSM	\$	-	\$	-
Cascade Natural Gas	\$	197,563	\$	127,443
Avista	\$	307,182	\$	289,217
Low and moderate income grant	\$	27,818	\$	-
Total	\$	42,770,924	\$	40,991,556

⁷ Columns may not total due to rounding.

⁸ The gas savings do not include results for NW Natural in Washington. These results are available at www.energytrust.org/reports.

⁹ Energy Trust invested organization contingency pool funds to explore new business development opportunities. Organization contingency pool funds are unrestricted donations and consulting fees, and are independent from ratepayer funds.

¹⁰ Energy Trust received a grant from the U.S. Department of Energy to collaborate with the Oregon Department of Energy to increase access to solar energy for low- and moderate-income communities.

C. Expenditures by utility

	Source	Q3 actual expenditures	Q3 budgeted expenditures
	Portland General Electric	\$ 22,085,177	\$ 21,775,168
	Pacific Power	\$ 11,485,387	\$ 13,535,574
	NW Natural	\$ 4,589,033	\$ 4,549,050
	NW Natural Industrial DSM	\$ 362,531	\$ 753,492
	Cascade Natural Gas	\$ 384,491	\$ 519,903
	Avista	\$ 232,792	\$ 215,313
	Business development	\$ 730	\$ -
	Low and moderate income grant	\$ 27,818	\$ -
	Total	\$ 39,167,959	\$ 41,348,500

D. Expenditures by sector and program

		Q3 actual expenditures	Q3 budgeted expenditures
Commercial	Existing Buildings	\$ 8,150,290	\$ 10,395,577
	Existing Multifamily	\$ 1,946,890	\$ 2,270,350
	New Buildings	\$ 4,973,249	\$ 4,357,041
	NEEA Commercial	\$ 808,108	\$ 694,674
	Commercial total	\$ 15,878,537	\$ 17,717,642
Industrial	Production Efficiency	\$ 6,833,047	\$ 6,610,220
	NEEA Industrial	\$ 5,482	\$ 39,161
	Industrial total	\$ 6,838,529	\$ 6,649,382
Residential	Residential	\$ 9,788,487	\$ 10,315,872
	NEEA Residential	\$ 1,169,629	\$ 1,416,131
	Residential total	\$ 10,958,116	\$ 11,732,002
	Energy efficiency total	\$ 33,675,182	\$ 36,099,026
Renewables	Solar	\$ 2,666,590	\$ 2,223,629
	Other Renewables	\$ 1,044,152	\$ 845,291
	Renewable generation total	\$ 3,710,742	\$ 3,068,919
Administration	Administration	\$ 1,755,034	\$ 2,180,554
	Administration total	\$ 1,755,034	\$ 2,180,554
Other	Business development	\$ 730	\$ -
	Low and moderate income grant*	\$ 26,271	\$ -
	Total expenditures	\$ 39,167,959	\$ 41,348,500

*Low- and moderate-income solar grant expenditures do not match grant expenditures in table C. This is because a portion of the grant expenditures in table D are under administration expenditures.

E. Incentives paid

Quarter	PGE efficiency	Pacific Power efficiency	NW Natural efficiency	Cascade Natural Gas efficiency	Avista efficiency	PGE generation	Pacific Power generation	Total
Q1	\$3,807,004	\$2,180,736	\$1,311,985	\$94,172	\$124,349	\$487,488	\$399,020	\$8,404,755
Q2	\$9,993,474	\$6,049,279	\$2,455,087	\$191,421	\$175,663	\$1,074,497	\$1,139,920	\$21,079,341
Q3	\$9,396,777	\$4,605,762	\$2,376,173	\$216,118	\$126,110	\$1,657,620	\$1,221,801	\$19,600,362
Total	\$23,197,255	\$12,835,777	\$6,143,245	\$501,712	\$426,122	\$3,219,605	\$2,760,741	\$49,084,458

V Savings and generation tables^{11,12,13,14,15}

A. Savings and generation by fuel

	Q3 savings/generation	YTD savings/generation	Annual goal	Percent achieved YTD
Electric savings	9.1 aMW	23.0 aMW	56.6 aMW	41%
Natural gas savings	905,419 therms	3.0 million therms	6.6 million therms	46%
Electric generation	0.77 aMW	1.66 aMW	1.89 aMW	88%

B. Progress toward annual efficiency goals by utility¹⁶

	Q3 savings	YTD savings	Annual goal	Percent achieved YTD	Annual IRP target	Percent achieved YTD
Portland General Electric	5.9 aMW	14.4 aMW	36.4 aMW	40%	36.12 aMW	40%
Pacific Power	3.2 aMW	8.6 aMW	20.2 aMW	42%	19.8 aMW	43%
NW Natural	739,858 therms	2.5 million therms	5.7 million therms	45%	5.7 million therms*	45%
Cascade Natural Gas	87,522 therms	233,818 therms	547,106 therms	43%	548,212 therms*	43%
Avista	78,039 therms	236,232 therms	349,520 therms	68%	349,520 therms*	68%

* Integrated resource plans for NW Natural, Cascade Natural Gas and Avista are pending acknowledgement by the OPUC.

¹¹ Columns may not total due to rounding.

¹² This document reports net savings. Net savings are adjusted gross savings based on results of current and past evaluations.

¹³ Electric savings also include transmission and distribution savings.

¹⁴ The gas savings do not include results for NW Natural in Washington. These results are available at www.energytrust.org/reports.

¹⁵ Energy Trust reports 100 percent of generation and capacity for renewable energy installations supported by Energy Trust's cash incentives. While some of these projects have additional sources of funding, Energy Trust enabled project completion.

¹⁶ Integrated resource plan targets are shown in net savings, and are based on the IRP targets Energy Trust submitted to utilities for inclusion in their current IRP filings based on 2018 net-to-gross ratios. Some IRP targets do not match Energy Trust goals because IRP timing precedes Energy Trust's budgeting process through which utility energy goals are set. Energy Trust uses the most up-to-date information to determine its budgeted goals.

C. Electric savings by sector and program

		Q3 savings aMW	YTD savings aMW	Annual goal aMW	Percent achieved YTD
Commercial	Existing Buildings	1.5	5.2	15.0	34%
	Existing Multifamily	0.4	1.2	1.8	66%
	New Buildings	1.8	3.9	6.3	62%
	NEEA Commercial	0.5	0.9	1.8	52%
Commercial total		4.1	11.2	24.8	45%
Industrial	Production Efficiency	2.2	5.2	19.2	27%
	NEEA Industrial	0.02	0.04	0.08	53%
Industrial total		2.2	5.2	19.3	27%
Residential	Residential	1.8	4.6	7.2	64%
	NEEA Residential	1.0	2.0	5.3	37%
Residential total		2.8	6.6	12.4	53%
Total electric savings		9.1	23.0	56.6	41%

D. Natural gas savings by sector and program

		Q3 savings thm	YTD savings thm	Annual goal thm	Percent achieved YTD
Commercial	Existing Buildings	76,322	515,979	1,481,693	35%
	Existing Multifamily	18,131	66,546	165,791	40%
	New Buildings	85,188	337,581	936,040	36%
	Commercial total	179,641	920,107	2,583,524	36%
Industrial	Production Efficiency	57,716	325,891	1,064,753	31%
Industrial total		57,716	325,891	1,064,753	31%
Residential	Residential	668,063	1,771,616	2,903,694	61%
	Residential total	668,063	1,771,616	2,903,694	61%
Total natural gas savings		905,419	3,017,614	6,551,970	46%

Energy Trust allocated budget to NEEA for gas market transformation activities. While there were no associated savings in 2018, savings are expected in subsequent years.

E. Renewable energy generation by utility

		Q3 generation aMW	YTD generation aMW	Annual goal aMW	Percent achieved YTD
Portland General Electric		0.43	0.93	1.08	86%
Pacific Power		0.34	0.73	0.82	90%
Total		0.77	1.66	1.89	88%

F. Renewable energy generation by program

	Q3 generation aMW	YTD generation aMW	Annual goal aMW	Percent achieved YTD
Other Renewables	0.00	0.00	0.00	n/a
Solar	0.77	1.66	1.89	88%
Total generation	0.77	1.66	1.89	88%

G. Incremental utility SB 838 expenditures¹⁷

Utility	2018 Q3 SB 838 Expenditures	YTD SB 838 Expenditures
Portland General Electric \$	199,079	\$ 563,710
Pacific Power \$	290,912	\$ 691,084
Total \$	489,991	\$ 1,254,794

¹⁷ Reflects expenditures by Pacific Power and PGE in support of utility activities described in SB 838. Reports detailing these activities are submitted annually to the OPUC.